

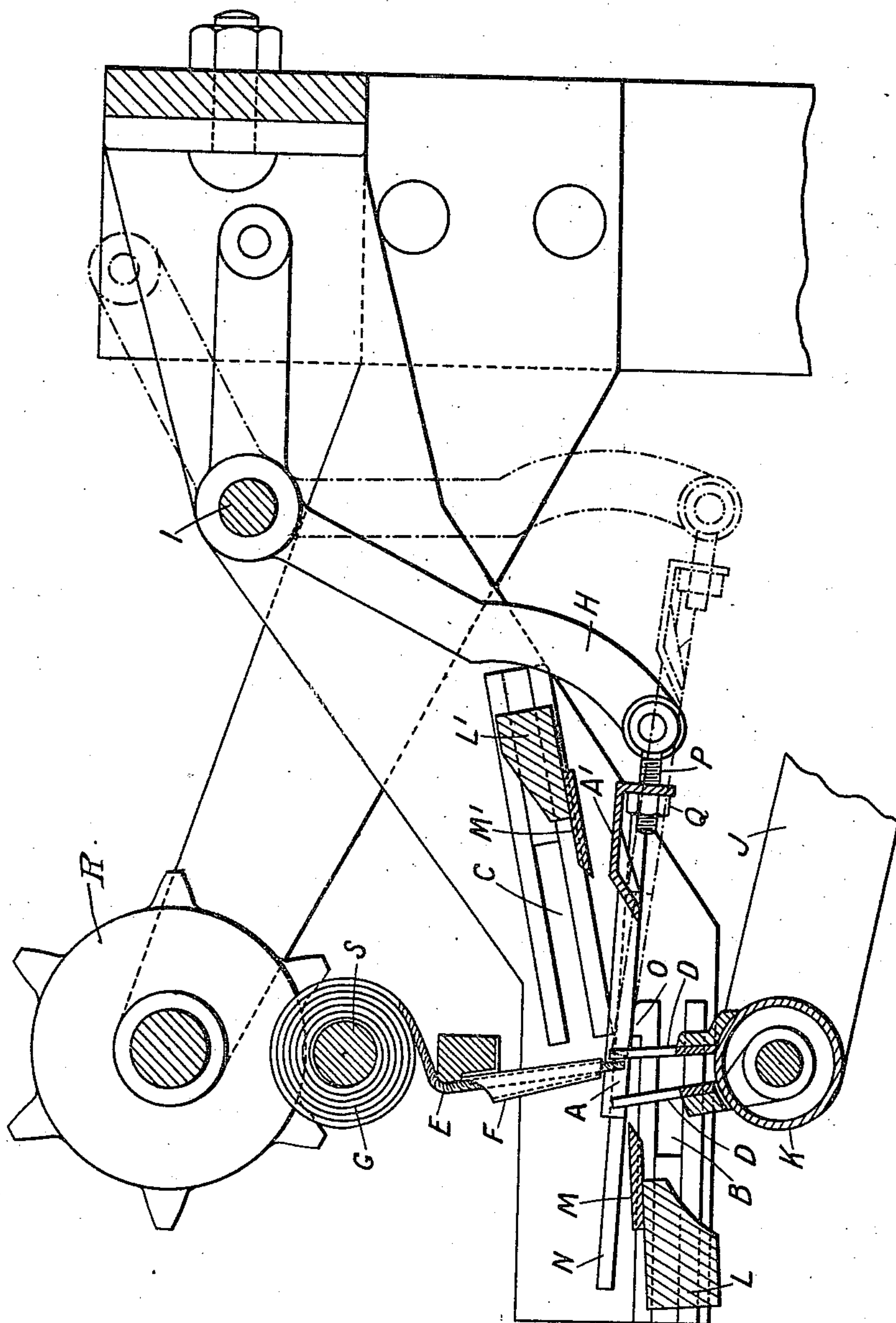
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LOOM FOR WEAVING TUFTED FABRICS

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UNITED STATES PATENT OFFICE.

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LOOM FOR WEAVING TUFTED FABRICS.

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(GRANTED UNDER THE PROVISIONS OF THE ACT OF MARCH 3, 1921, 41 STAT. L., 1313.)

To all whom it may concern:

Be it known that I, ARTHUR DAVIS, a subject of the King of Great Britain, residing at 62 Woodfield Crescent, Kidderminster, Worcestershire, England, have invented new and useful Improvements in Looms for Weaving Tufted Fabrics, of which the following is a specification (for which I have secured Letters Patent in Great Britain, numbered 109,017, dated, March 28, 1917).

This invention relates to the class or type of loom in which the pile forming yarns are cut off before being inserted between the warp threads, and is particularly adapted to looms of the Axminster type in which the yarn threads are wound side by side on a spool or spools reaching across the width of the fabric, such individual threads passing through a metal tube, as in known practice. One of the drawbacks of this arrangement is that owing to the small circumference of the spools, the yarn upon being unwound, retains some of its curvature which increases as the yarn is worked off the spool, and this prevents the ends which project through the tubes (it might prevent all or most of them) from assuming that desirable position which is necessary in order for the grippers to seize them, or at any rate to do so with certainty and accuracy. Thus it frequently happens that an end is missed altogether by the grippers, and others only partially seized, and this possibility is always present when no special placing device is used, owing to the above cause.

My present improvements, comprise means by which the ends of the pile forming yarns are definitely and accurately placed, no matter how pronounced the curvature may be, so ensuring that each end of tuft yarn is seized by the grippers. These means are caused to penetrate between the yarns, separating each tuft from its fellow, at a point right up against the mouth of the yarn tubes, no portion of the projecting piece of yarn being left uncontrolled, as would happen, if, for instance, space were left for a gripper to come in between, as in one arrangement previously proposed.

A convenient form of my said improvement is illustrated by the accompanying drawing, showing the particular part of the loom in a sectional view, looking to the left-

hand side. Referring to the said drawing, a series of guide blades A is fastened at one end into a base A¹ which is slitted therefor, or otherwise arranged, so that they shall be spaced at the same pitch as the grippers D, each slit, for example, having one such guide blade A fastened into it. The blade base A¹ is connected adjustably, such as by an eyebolt P with nut Q, to a swinging lever H, and its counterpart on right hand side (not shown) fastened to a shaft I reaching across the loom from side to side, and operated from the cam shaft or other suitable device. Any other convenient operating means may be employed.

The sprocket wheel R is driven by the usual pattern chain, (not illustrated), and the tuft frame carrier has thereon the tuft yarn G, the ends thereof being passed through tubes F and projecting a little beyond the lower ends of said tubes. The gripper lever J is associated with gripper tube K. The knives M M' are attached to cross bars or rails L L' operating in slides B and C, the cross bars being reciprocated by the usual mechanism and operating to cut the ends E when they have been drawn for the required distance from the delivery ends of the tubes F by the grippers D D. The guide blades A are attached to a base A' and are moved forward by the swinging lever H, each blade entering its proper space between the teeth of the grippers D and so bringing the ends of the yarn tufts E exactly between the jaws of their respective grippers. The grippers or jaws then close, and upon being lowered, pull the yarn tufts E to the required length. The guide blades A then move back to their rear position, and the knives M M' come into action, cutting the tufts E, whereupon the latter are lowered down and inserted into the warp threads. To produce the proper insertion, the grippers holding the cut tufts are caused to turn over as they approach the warps by the usual wheel and rack arrangement.

The blade base A¹ has a suitably shaped extension or attachment N at each side, which rests on the knife slide O and its duplicate, or upon any other convenient part, this support controlling the height of the free ends of the blades A when they are passing through the line of grippers D.

From an inspection of the drawing and

the foregoing description, it will be apparent that in operation the guide blades pass between the teeth of the transferring grippers so insuring perfect registration of the blades, tuft ends and gripper teeth. This is a very important feature of the invention.

I claim:—

In a weaving machine for tufted fabrics, tubes constituting guiding members for pile yarns, means consisting of blades at the discharge ends of the guiding members for engaging the yarn to prevent its bending, and grippers movable with respect to said blades for grasping the yarn. 10

ARTHUR DAVIS.